Amd A8

37. (once amended) An electric meter in accordance with Claim 31 wherein said meter being configured to monitor voltage changes on at least one of the phase voltages comprises said meter being configured to periodically check whether voltage is lost.

A9

39. (once amended) An electric meter in accordance with Claim 31 wherein said meter being configured to monitor voltage changes on at least one of the phase voltages comprises said meter being configured to determine that a voltage is lost when the voltage drops to one-half of a normal voltage.

A10

45. (once amended) An electric meter in accordance with Claim 44 wherein said meter is configured to respond to voltage changes including at least one of a voltage sag below a predetermined level and a voltage swell above a predetermined level.

A11

57. (once amended) An electric meter for metering energy consumption, said meter comprising a microcomputer configured to:

operate the meter in a first mode of operation;

periodically check, at temporal period boundaries, for pending changes to the mode of operation; and

effect the change to the mode of operation after a periodic check.

REMARKS

The Office Action mailed December 23, 2002 has been carefully reviewed and the foregoing amendment has been made in consequence thereof. A Submission of Marked Up Claims is submitted herewith.

Claims 1-60 are pending in this application. Claims 1-5, 7-22, 24-28, 30-35, 37-52, 54-58, and 60. Claims 6, 15, 22, 23, 24, 29, 36, 45, 52, 53, and 59 are objected to. Claims 2 and 32 have been cancelled.

The objection to Claims 15 and 45 is respectfully traversed. Specifically, Claim 15 has been amended to recite, "the voltage change is one of a voltage sag below a predetermined level or a voltage swell above a predetermined level." Claim 45 has been amended to recite, "said meter is configured to respond to voltage changes including at least

one of a voltage sag below a predetermined level and a voltage swell above a predetermined level." Accordingly, for at least the reasons set forth above, Applicants request the objection to Claims 15 and 45 be withdrawn.

The objection to Claim 24 is respectfully traversed. Specifically, Claim 24 has been amended to recite "receiving input data from other meters associated with a load." Accordingly, for at least the reasons set forth above, Applicants request the objection to Claim 24 be withdrawn.

The rejection of Claims 1-5, 7, 31-35, and 37 under 35 U.S.C. § 102 as being unpatentable over Hubbard et al. (U.S. Pat. No. 6,374,188) is respectfully traversed.

Hubbard et al. describe an energy meter that may perform an operating error test that may be used to identify conditions that may affect revenue data, such as power outage carryover errors, configuration errors, and EEPROM errors. Operating errors are displayed when they are detected and may be locked on the display. A system test may include a system service voltage test that is used to verify that the voltage phase angles are within a predefined range for the particular service and that the phase voltages are within a predefined voltage range of the valid service nominal voltages. The service test may be used to identify the electrical service. If either a valid service is not found or the service test for a designated service fails, a system error code indicating an invalid service is displayed and locked on the display to ensure that the failure is noted and evaluated to correct the error.

Claim 1 recites a method for metering energy consumption with an electric meter wherein the method includes "generating metering quantities for a plurality of phase voltages from a multiphase voltage source, including generating revenue-related data...monitoring voltage changes on at least one of the phase voltages...performing a predetermined task in response to a voltage change on at least one of the phase voltages while continuing to generate revenue-related data...changing a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost...generating metering quantities from the remaining set of phase voltages using the changed metering form type."

Hubbard et al. do not describe nor suggest a method for metering energy consumption with an electric meter wherein the method includes changing a metering form type of the

meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost, and generating metering quantities from the remaining set of phase voltages using the changed metering form type. Rather, in contrast to the present invention, Hubbard et al. describe an energy meter that displays a system error code if either a valid service is not found, or the service test for a designated service fails, but Hubbard et al. do not describe or suggest generating metering quantities from the remaining set of phase voltages using the changed metering form type when at least one of the phase voltages is lost. For the reasons set forth above, Claim 1 is submitted to be patentable over Hubbard et al.

Claims 2-5 and 7 depend from independent Claim 1 which is submitted to be patentable over Hubbard et al. When the recitations of Claims 2-5 and 7 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-5 and 7 likewise are patentable over Hubbard et al.

Claim 31 recites an electric meter for metering energy consumption wherein the meter is configured to generate metering quantities for a plurality of phase voltages from a multiphase voltage source, the metering quantities including revenue-related data...monitor voltage changes on at least one of the phase voltages...perform a predetermined task in response to a voltage change on at least one of the phase voltages while continuing to generate revenue-related data...change a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost...generate metering quantities from the remaining set of phase voltages using the changed metering form type."

Hubbard et al. do not describe nor suggest an electric meter for metering energy consumption wherein the meter is configured to change a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost, and generate metering quantities from the remaining set of phase voltages using the changed metering form type. Rather, in contrast to the present invention, Hubbard et al. describe an energy meter that displays a system error code if either a valid service is not found, or the service test for a designated service fails. For the reasons set forth above, Claim 31 is submitted to be patentable over Hubbard et al.

Claims 32-35, and 37 depend from independent Claim 31 which is submitted to be patentable over Hubbard et al. When the recitations of Claims 32-35, and 37 are considered

in combination with the recitations of Claim 31, Applicants submit that dependent Claims 32-35, and 37 likewise are patentable over Hubbard et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-5, 7, 31-35, and 37 be withdrawn.

The rejection of Claims 19, 20, 49, and 50 under 35 U.S.C. § 102 as being unpatentable over Rector et al. (U.S. Pat. No. 6,115,676) is respectfully traversed.

Rector et al. describe an electronic energy meter that may receive a load profile snapshot command, then a register saves, in memory, the kilowatt-hour pulses for the minute before, minute during and minute after the command was received. The accumulated pulse data is then transmitted by register to the service control center.

Claim 19 recites a method for metering energy consumption with an electric meter wherein the method includes "generating metering quantities for a voltage source, including generating revenue-related data...receiving a request for a communication session from an external device...producing a static copy of selected revenue-related data in response to the communication session request...providing the static copy of the selected revenue-related data to the external device while continuing to generate metering quantities."

Rector et al. do not describe nor suggest a method for metering energy consumption with an electric meter wherein the method includes providing the static copy of the selected revenue-related data to the external device while continuing to generate metering quantities. Rather, in contrast to the present invention, Rector et al. describe an energy meter that receives a load profile snapshot command, then a register saves, in memory, the kilowatt-hour pulses for the minute before, minute during and minute after the command was received. The accumulated pulse data is then transmitted by register to the service control center, but Rector et al. do not describe nor suggest continuing to generate metering quantities while providing the static copy of the selected revenue-related data to the external device. For the reasons set forth above, Claim 19 is submitted to be patentable over Rector et al.

Claim 20 depends from independent Claim 19 which is submitted to be patentable over Rector et al. When the recitations of Claim 20 are considered in combination with the recitations of Claim 19, Applicants submit that dependent Claim 20 likewise is patentable over Rector et al.

Claim 49 recites an electric meter for metering energy consumption wherein the meter is configured to generate metering quantities for a voltage source, including revenue-related data...receive a request for a communication session from an external device...produce a static copy of selected revenue-related data in response to the communication session request...provide the static copy of the selected revenue-related data to the external device while continuing to generate metering quantities."

Rector et al. do not describe nor suggest an electric meter for metering energy consumption wherein the meter is configured to provide a static copy of selected revenue-related data to an external device while continuing to generate metering quantities. Rather, in contrast to the present invention, Rector et al. describe an energy meter that receives a load profile snapshot command, then a register saves, in memory, the kilowatt-hour pulses for the minute before, minute during and minute after the command was received. The accumulated pulse data is then transmitted by register to the service control center, but Rector et al. do not describe nor suggest a meter configured to continue generating metering quantities while providing a static copy of selected revenue-related data to an external device. For the reasons set forth above, Claim 49 is submitted to be patentable over Rector et al.

Claim 50 depends from independent Claim 49 which is submitted to be patentable over Rector et al. When the recitations of Claim 50 are considered in combination with the recitations of Claim 49, Applicants submit that dependent Claim 50 likewise is patentable over Rector et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 19, 20, 49, and 50 be withdrawn.

The rejection of Claims 10, 11, 13-18, 40, 41, and 43-48 under 35 U.S.C. § 102 as being unpatentable over Bearden et al. (U.S. Pat. No. 5,627,759) is respectfully traversed.

Bearden et al. describe a revenue accuracy meter for measuring the amount and quality of power received by a power customer across electrical power lines that includes a variation determiner for determining undesired variations in an electrical signal representative of power received by the power customer. The meter may monitor power outage, sags/surges, and excessive harmonics. This information can then be relayed to a head office, key account representatives, and/or customers.

Claim 1 recites a method for metering energy consumption with an electric meter wherein the method includes "generating metering quantities for a plurality of phase voltages from a multiphase voltage source, including generating revenue-related data...monitoring voltage changes on at least one of the phase voltages...performing a predetermined task in response to a voltage change on at least one of the phase voltages while continuing to generate revenue-related data...changing a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost...generating metering quantities from the remaining set of phase voltages using the changed metering form type."

Bearden et al. do not describe nor suggest a method for metering energy consumption with an electric meter wherein the method includes changing a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost, and generating metering quantities from the remaining set of phase voltages using the changed metering form type. For the reasons set forth above, Claim 1 is submitted to be patentable over Bearden et al.

Claims 10, 11, and 13-18, depend from independent Claim 1 which is submitted to be patentable over Bearden et al. When the recitations of Claims 10, 11, and 13-18 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 10, 11, and 13-18 likewise are patentable over Bearden et al.

Claim 31 recites an electric meter for metering energy consumption wherein the meter is configured to generate metering quantities for a plurality of phase voltages from a multiphase voltage source, the metering quantities including revenue-related data...monitor voltage changes on at least one of the phase voltages...perform a predetermined task in response to a voltage change on at least one of the phase voltages while continuing to generate revenue-related data...change a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost...generate metering quantities from the remaining set of phase voltages using the changed metering form type."

Bearden et al. do not describe nor suggest an electric meter for metering energy consumption wherein the meter is configured to change a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is

lost, and generate metering quantities from the remaining set of phase voltages using the changed metering form type. For the reasons set forth above, Claim 31 is submitted to be patentable over Bearden et al.

Claims 40, 41, and 43-48 depend from independent Claim 31 which is submitted to be patentable over Bearden et al. When the recitations of Claims 40, 41, and 43-48 are considered in combination with the recitations of Claim 31, Applicants submit that dependent Claims 40, 41, and 43-48 likewise are patentable over Bearden et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 10, 11, 13-18, 40, 41, and 43-48 be withdrawn.

The rejection of Claims 21 and 51 under 35 U.S.C. § 102 as being unpatentable over Pyle et al. (U.S. Pat. No. 5,467,286) is respectfully traversed.

Pyle et al. describe a metering unit for a distributed power network that transmits a power-related waveform. Metering unit includes a plurality of sensors, a processor, and a plurality of memories. Sensors sense power-related parameters associated with the power-related waveform. In response to sensors, processor generates and transmits data representative of the power-related waveform. Memories include programmable logic and main functionality firmware stored therein for execution by processor. The logic is programmable by a user and executable by processor. The metering unit is provided with a first non-volatile memory having a first section for storing main functionality firmware and a second section for storing boot code. The boot code includes a reset portion for resetting the metering unit and a firmware update section for downloading external firmware to the first section. The firmware update section includes a writing routine for writing the external firmware to the first section. The metering unit is also provided with a second memory. The external firmware is downloaded to the first section of the first non-volatile memory by executing the firmware update section. While executing the firmware update section, the writing routine is copied to the second memory and executed therefrom to write the external firmware to the first section of the first non-volatile memory. More specifically, when the firmware is updated, the external firmware overwrites the main functionality software during the firmware update.

Claim 21 recites a method for metering energy consumption with a microcomputer-controlled electric meter having a memory wherein the method includes "controlling the meter, using a first program in a first portion of the memory, to generate metering quantities for a voltage source...writing a second program into a second portion of the memory...switching control of the meter to the second program when the second program has been written to the second portion of the memory."

Pyle et al. do not describe nor suggest a method for metering energy consumption with a microcomputer-controlled electric meter having a memory wherein the method includes controlling the meter, using a first program in a first portion of the memory, to generate metering quantities for a voltage source, writing a second program into a second portion of the memory, and switching control of the meter to the second program when the second program has been written to the second portion of the memory. Specifically, Pyle et al. do not describe nor suggest a method that includes using a first program in a first portion of the memory, writing a second program into a second portion of the memory, and switching control of the meter to the second program when the second program has been written to the second portion of the memory. Rather, in contrast to the present invention, Pyle et al. describe method of updating firmware wherein the external firmware overwrites the main functionality software during a firmware update. For the reasons set forth above, Claim 21 is submitted to be patentable over Pyle et al.

Claim 51 recites an electric meter for metering energy consumption wherein the meter includes a microcomputer-and a memory, and wherein the microcomputer is configured to "control said meter, using a first program in a first portion of said memory, to generate metering quantities for a voltage source...write a second program into a second portion of said memory...switch to controlling said meter using the second program when the second program has been written to said second portion of said memory."

Pyle et al. do not describe nor suggest an electric meter for metering energy consumption wherein the meter includes a microcomputer-and a memory, and wherein the microcomputer is configured to control the meter, using a first program in a first portion of the memory, to generate metering quantities for a voltage source, write a second program into a second portion of the memory, and switch to controlling the meter using the second program when the second program has been written to the second portion of said memory.

Rather, in contrast to the present invention, Pyle et al. describe method of updating firmware wherein the external firmware overwrites the main functionality software during a firmware update. For the reasons set forth above, Claim 51 is submitted to be patentable over Pyle et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 21 and 51 be withdrawn.

The rejection of Claims 21 and 51 under 35 U.S.C. § 102 as being unpatentable over Allgood (U.S. Pat. No. 4,568,934) is respectfully traversed.

Allgood describes a centralized data communications system for monitoring and displaying energy consumption at electrical installations such as in commercial buildings, apartments, condominiums, etc. where a single utility meter is provided at an electrical service entrance. With only a single utility meter provided, individual energy consumption in the apartments or other units of the building cannot be individually monitored or billed. The system provides an energy management system which can be installed in a new or existing building not having individual unit metering to monitor and provide an indication of the individual energy consumption in each unit. The system that includes a computer controlled central station, a plurality of remote stations and a communications channel between each remote station and the central station. The central station addresses an energy consumption sensor connected to an information channel at a remote station through a master controller, and receives energy consumption data from the sensor, central station then computes an actual energy consumption, and sends a signal representative of the computed energy consumption to a display device connected to an information channel of a remote station to display the computed energy consumption. The remote stations are constructed as low-cost modules which may be powered solely by a plurality of addressing tones from the central station.

Claim 24 recites a method for metering energy consumption with an electric meter wherein the method includes "generating metering quantities for a first voltage source...receiving input data from other meters associated with a load...processing the input data to produce a value representative of a total energy consumed."

Allgood do not describe nor suggest a method for metering energy consumption with an electric meter wherein the method includes generating metering quantities for a first voltage source, receiving input data from other meters associated with a load, processing the input data to produce a value representative of a total energy consumed. Specifically, Allgood does not describe nor suggest a method for metering energy consumption with an electric meter wherein the method includes generating metering quantities for a first voltage source. Rather, in contrast to the present invention, Allgood describes method of a method for monitoring energy consumption wherein a remote station senses current and voltage parameters and communicates energy consumption data to the central station. More specifically, Allgood describes remote stations that do not receive input data from other meters associated with the load. Rather, each remote station only transmits energy consumption data to the central station. For the reasons set forth above, Claim 24 is submitted to be patentable over Allgood.

Claims 25 and 26 depend from independent Claim 24 which is submitted to be patentable over Allgood. When the recitations of Claims 25 and 26 are considered in combination with the recitations of Claim 24, Applicants submit that dependent Claims 25 and 26 likewise are patentable over Allgood.

Claim 54 recites an electric meter for metering energy consumption wherein the meter is configured to generate metering quantities for a first voltage source...receive input data other meters associated with a load...process the input data to produce a value representative of a total energy consumed."

Allgood do not describe nor suggest an electric meter for metering energy consumption wherein the meter is configured to generate metering quantities for a first voltage source, receive input data other meters associated with a load, process the input data to produce a value representative of a total energy consumed. Rather, in contrast to the present invention, Allgood describes method of a method for monitoring energy consumption wherein a remote station senses current and voltage parameters and communicates energy consumption data to the central station. More specifically, Allgood describes remote stations that do not receive input data from other meters associated with the load. Rather, each remote station only transmits energy consumption data to the central station. For the reasons set forth above, Claim 54 is submitted to be patentable over Allgood.

Claims 55 and 56 depend from independent Claim 54 which is submitted to be patentable over Allgood. When the recitations of Claims 55 and 56 are considered in combination with the recitations of Claim 54, Applicants submit that dependent Claims 55 and 56 likewise are patentable over Allgood.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 24-26 and 54-56 be withdrawn.

The rejection of Claims 27, 30, 57, and 60 under 35 U.S.C. § 102 as being unpatentable over Atherton et al. (U.S. Pat. No. 5,315,235) is respectfully traversed.

Atherton et al. describe an energy meter capable of converting from one mode of operation to another mode of operation. An operating system coordinates a task execution sequence and is table driven. The tables are a form of indirect addressing to respective software routines which control operation of the register component to perform respective tasks in a predetermined order. By changing the operation mode of the operating system, a different set of tasks are executed. In the normal execution mode, the operating system executes an infinite loop, i.e., unless an interrupt or "new priority" flag is set, the operating system continues to execute through the loop. The operating system causes the first task of the selected task table to be executed, then checks whether there is any request for an immediate mode change. As long as there is no request for an immediate mode change, the tasks of the selected task table are executed in sequence as defined in the selected task table and until the end of the selected task table is reached, i.e., until the last task in the selected task table is executed. When the end of the selected task table is reached, or if an immediate mode change is requested, the operating system re-indexes the table and executes the table. If no mode change has been requested, either immediate or regular, then the task table "pointed to" will be the same task table just executed.

Claim 27 recites a method for metering energy consumption with an electric meter wherein the method includes operating the meter in a first mode of operation...periodically checking, at temporal period boundaries, for pending changes to the mode of operation...effecting the change to the mode of operation after a periodic check."

Atherton et al. do not describe nor suggest a method for metering energy consumption with an electric meter wherein the method includes operating the meter in a first mode of

operation, periodically checking, at temporal period boundaries, for pending changes to the mode of operation, effecting the change to the mode of operation after a periodic check. Specifically, Atherton et al. do not describe nor suggest periodically checking, at temporal period boundaries, for pending changes to the mode of operation. Rather, in contrast to the present invention, Atherton et al. describe an energy meter that checks for a mode change request after the first task of the selected task table is executed, after the end of the selected task table is reached, or if an immediate mode change is requested. For the reasons set forth above, Claim 27 is submitted to be patentable over Atherton et al.

Claim 30 depends from independent Claim 27 which is submitted to be patentable over Atherton et al. When the recitations of Claim 30 are considered in combination with the recitations of Claim 27, Applicants submit that dependent Claim 30 likewise is patentable over Atherton et al.

Claim 57 recites an electric meter for metering energy consumption wherein the meter includes a microcomputer configured to "operate the meter in a first mode of operation...periodically check, at temporal period boundaries, for pending changes to the mode of operation...effect the change to the mode of operation after a periodic check."

Atherton et al. do not describe nor suggest an electric meter for metering energy consumption wherein the meter includes a microcomputer configured to operate the meter in a first mode of operation, periodically check, at temporal period boundaries, for pending changes to the mode of operation, effect the change to the mode of operation after a periodic check. Specifically, Atherton et al. do not describe nor suggest periodically checking, at temporal period boundaries, for pending changes to the mode of operation. Rather, in contrast to the present invention, Atherton et al. describe an energy meter that checks for a mode change request after the first task of the selected task table is executed, after the end of the selected task table is reached, or if an immediate mode change is requested. For the reasons set forth above, Claim 57 is submitted to be patentable over Atherton et al.

Claim 60 depends from independent Claim 57 which is submitted to be patentable over Atherton et al. When the recitations of Claim 60 are considered in combination with the recitations of Claim 57, Applicants submit that dependent Claim 60 likewise is patentable over Atherton et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 27, 30, 57, and 60 be withdrawn.

The rejection of Claims 8 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Hubbard et al. (U.S. Pat. No. 6,374,188) is respectfully traversed.

Hubbard et al. is described above.

Claim 1 recites a method for metering energy consumption with an electric meter wherein the method includes "generating metering quantities for a plurality of phase voltages from a multiphase voltage source, including generating revenue-related data...monitoring voltage changes on at least one of the phase voltages...performing a predetermined task in response to a voltage change on at least one of the phase voltages while continuing to generate revenue-related data...changing a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost...generating metering quantities from the remaining set of phase voltages using the changed metering form type."

Hubbard et al. do not describe nor suggest a method for metering energy consumption with an electric meter wherein the method includes changing a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost, and generating metering quantities from the remaining set of phase voltages using the changed metering form type. Rather, in contrast to the present invention, Hubbard et al. describe an energy meter that displays a system error code if either a valid service is not found, or the service test for a designated service fails, but Hubbard et al. do not describe or suggest generating metering quantities from the remaining set of phase voltages using the changed metering form type when at least one of the phase voltages is lost. For the reasons set forth above, Claim 1 is submitted to be patentable over Hubbard et al.

Claims 8 and 9 depend from independent Claim 1 which is submitted to be patentable over Hubbard et al. When the recitations of Claims 8 and 9 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 8 and 9 likewise are patentable over Hubbard et al.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 8 and 9 be withdrawn.

The rejection of Claims 12 and 42 under 35 U.S.C. § 103(a) as being unpatentable over Bearden et al. (U.S. Pat. No. 5,627,759) in view of Hubbard et al. (U.S. Pat. No. 6,374,188) is respectfully traversed.

Bearden et al. and Hubbard et al. are described above.

Claim 1 recites a method for metering energy consumption with an electric meter wherein the method includes "generating metering quantities for a plurality of phase voltages from a multiphase voltage source, including generating revenue-related data...monitoring voltage changes on at least one of the phase voltages...performing a predetermined task in response to a voltage change on at least one of the phase voltages while continuing to generate revenue-related data...changing a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost...generating metering quantities from the remaining set of phase voltages using the changed metering form type."

Neither Bearden et al. nor Hubbard et al. alone or in combination describe or suggest a method for metering energy consumption with an electric meter wherein the method includes changing a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost, and generating metering quantities from the remaining set of phase voltages using the changed metering form type. For the reasons set forth above, Claim 1 is submitted to be patentable over Bearden et al. in view of Hubbard et al.

Claim 12 depend from independent Claim 1 which is submitted to be patentable over Hubbard et al. When the recitations of Claim 12 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claim 12 likewise is patentable over Bearden et al. in view of Hubbard et al.

Claim 31 recites an electric meter for metering energy consumption wherein the meter is configured to generate metering quantities for a plurality of phase voltages from a multiphase voltage source, the metering quantities including revenue-related data...monitor voltage changes on at least one of the phase voltages...perform a predetermined task in response to a voltage change on at least one of the phase voltages while continuing to generate revenue-related data...change a metering form type of the meter in accordance with

a remaining set of phase voltages when at least one of the phase voltages is lost...generate metering quantities from the remaining set of phase voltages using the changed metering form type."

Neither Bearden et al. nor Hubbard et al. describe nor suggest an electric meter for metering energy consumption wherein the meter is configured to change a metering form type of the meter in accordance with a remaining set of phase voltages when at least one of the phase voltages is lost, and generate metering quantities from the remaining set of phase voltages using the changed metering form type. For the reasons set forth above, Claim 31 is submitted to be patentable over Bearden et al. in view of Hubbard et al.

Claim 42 depends from independent Claim 31 which is submitted to be patentable over Bearden et al. When the recitations of Claim 42 are considered in combination with the recitations of Claim 31, Applicants submit that dependent Claim 42 likewise is patentable over Bearden et al. in view of Hubbard et al.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 12 and 42 be withdrawn.

The rejection of Claims 28 and 58 under 35 U.S.C. § 103(a) as being unpatentable over Atherton et al. (U.S. Pat. No. 5,315,235) in view of Atherton et al. (U.S. Pat. No. 5,270,949) is respectfully traversed.

Atherton et al. '235 is described above. Atherton et al. '949 describe solid-state electronic register for an electrical energy meter. Five bytes of data are pre-stored in a memory forming part of or coupled to a micro-controller, which are used by the micro-controller to determine whether the register has been programmed. Specifically, when the meter register has been programmed, and as part of the programming operation, the five bytes of data are set to a known, pre-determined value. At initialization after power-up, the register function value is compared with the known values associated with respective modes of operation, and if the values do not match a recognized value, then the register self-programs its non-volatile EEPROM with a set of default values that are stored in ROM. The five bytes of data are then set to "UNPRG" for unprogrammed. Notably, Atherton '949 unprograms the meter register if, after power-up, the contents of a memory location do not match a predetermined value that indicates a corruption in the program.

Claim 27 recites a method for metering energy consumption with an electric meter wherein the method includes operating the meter in a first mode of operation...periodically checking, at temporal period boundaries, for pending changes to the mode of operation...effecting the change to the mode of operation after a periodic check."

Neither Atherton et al. '235 nor Atherton et al. '949 describe or suggest a method for metering energy consumption with an electric meter wherein the method includes operating the meter in a first mode of operation, periodically checking, at temporal period boundaries, for pending changes to the mode of operation, effecting the change to the mode of operation after a periodic check. Specifically, Neither Atherton et al. '235 nor Atherton et al. '949 describe or suggest periodically checking, at temporal period boundaries, for pending changes to the mode of operation. Rather, in contrast to the present invention, Atherton et al. '235 describe an energy meter that checks for a mode change request after the first task of the selected task table is executed, after the end of the selected task table is reached, or if an immediate mode change is requested, and Atherton '949 describe a method of unprogramming a meter when, at initialization, a value contained in a memory location does not match a predetermined value, indicating the program has been corrupted. For the reasons set forth above, Claim 27 is submitted to be patentable over Atherton et al. '235 in view of Atherton et al. '949.

Claim 28 depends from independent Claim 27 which is submitted to be patentable over Atherton et al. '235 in view of Atherton et al. '949. When the recitations of Claim 28 are considered in combination with the recitations of Claim 27, Applicants submit that dependent Claim 28 likewise is patentable over Atherton et al. '235 in view of Atherton et al. '949.

Claim 57 recites an electric meter for metering energy consumption wherein the meter includes a microcomputer configured to "operate the meter in a first mode of operation...periodically check, at temporal period boundaries, for pending changes to the mode of operation...effect the change to the mode of operation after a periodic check."

Neither Atherton et al. '235 nor Atherton et al. '949 describe or suggest an electric meter for metering energy consumption wherein the meter includes a microcomputer configured to operate the meter in a first mode of operation, periodically check, at temporal period boundaries, for pending changes to the mode of operation, effect the change to the

mode of operation after a periodic check. Specifically, neither Atherton et al. '235 nor Atherton et al. '949 describe or suggest periodically checking, at temporal period boundaries, for pending changes to the mode of operation. Rather, in contrast to the present invention, Atherton et al. '235 describe an energy meter that checks for a mode change request after the first task of the selected task table is executed, after the end of the selected task table is reached, or if an immediate mode change is requested, and Atherton '949 describe a method of unprogramming a meter when, at initialization, a value contained in a memory location does not match a predetermined value, indicating the program has been corrupted. For the reasons set forth above, Claim 57 is submitted to be patentable over Atherton et al. '235 in view of Atherton et al. '949.

Claim 58 depends from independent Claim 57 which is submitted to be patentable over Atherton et al. '235 in view of Atherton et al. '949. When the recitations of Claim 58 are considered in combination with the recitations of Claim 57, Applicants submit that dependent Claim 58 likewise is patentable over Atherton et al. '235 in view of Atherton et al. '949.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 28, and 58 be withdrawn.

Claims 6, 22, 23, 29, 36, 52, 53, and 59 were indicated in the Office Action as being objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 6 depends from Claim 1 which is submitted to be in condition for allowance. When the recitations of Claim 6 are considered in combination with the recitations of Claim 1, Applicants submit that Claim 6 is also in condition for allowance.

Claims 22 and 23 depend from Claim 21 which is submitted to be in condition for allowance. When the recitations of Claims 22 and 23 are considered in combination with the recitations of Claim 21, Applicants submit that Claims 22 and 23 are also in condition for allowance.

Claim 29 depends from Claim 27 which is submitted to be in condition for allowance. When the recitations of Claim 29 are considered in combination with the recitations of Claim 27, Applicants submit that Claim 29 is also in condition for allowance.

Claim 36 depends from Claim 31 which is submitted to be in condition for allowance. When the recitations of Claim 36 is considered in combination with the recitations of Claim 31, Applicants submit that Claim 36 is also in condition for allowance.

Claims 52 and 53 depend from Claim 51 which is submitted to be in condition for allowance. When the recitations of Claims 52 and 53 are considered in combination with the recitations of Claim 51, Applicants submit that Claims 52 and 53 are also in condition for allowance.

Claim 59 depends from Claim 57 which is submitted to be in condition for allowance. When the recitations of Claim 59 are considered in combination with the recitations of Claim 57, Applicants submit that Claim 59 is also in condition for allowance.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully submitted,

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